

REMARKS

Claims 1 to 30 are pending after this amendment

Compliance of claims with 35 U.S.C. §102(e)

The Office Action cites Paatela et al. under raises 35 U.S.C. § 102(e) in relation to claims 1-4, 8-16, 19-21, and 24-28. The applicants respectfully submit that claims 1-4, 8-16, 19-21 and 24-28 patentably distinguish Paatela et al.

Paatela et al., as understood discloses a parsing engine containing an instruction memory. The instruction memory contains instructions for the parsing engine and pointers to access selected words in a frame buffer (p. 4, para. 51). The results of functions selected by the corresponding instruction operational code are used by an extractor to build search keys (p. 4, para. 51). The search keys are applied against a CAM (CAM 330 in FIG. 3) to return search result addresses (p. 5, para. 55) which in turn index an editor instruction address memory (SRAM 332 in FIG. 3), which contains editor instruction addresses (p. 5, para. 55). Paatela et al. show that editor instruction addresses index an editor instruction memory (memory 703 in FIG. 7) which contains editing instructions (pp. 5-6, para 61).

Claim 1

Claim 1 recites "using the protocol bits and the match engine index as a search key to retrieve a match engine entry ... comprising an action to take on the packet". Paatela et al. fail to show this feature. As understood, Paatela's memory (703) contains instructions and data to perform corresponding actions (para 61). Memory 703 is indexed with search results (708). There is no indication that search results (708) comprise both protocol bits and a match engine index, as claimed in claim 1. Search results (708) come from parser (312). As shown in Figure 4, the search results are looked up in SRAM/CAM (409). The applicant cannot find any suggestion that SRAM/CAM (409) or, more generally, parser (312) supplies search results which include

both protocol bits and a match engine index. Therefore claim 1 is submitted to be allowable over Paatela et al.

Claims 2-7 depend from claim 1 and are submitted to be allowable for at least this reason.

Claims 2 and 4

Claims 2 and 4 recite that the match engine index is included in the parser memory entry. The Applicant cannot find in Paatela et al. any reference to using as a key: a match engine index drawn from a parser memory that also contains a location of one or more protocol bits in combination with: protocol bits obtained from a packet being processed. Paatela et al. disclose building search keys from function results (p. 4, para. 51). Therefore claims 2 and 4 are submitted to be allowable.

Claims 9-11

Claim 9 recites "using a match engine key comprising a combination of the protocol bits and a match engine index. This claim is submitted to patentably distinguish Paatela et al. for substantially the same reasons tendered above in relation to claim 1. The Applicant cannot find any disclosure in Paatela et al. of the use of a match engine index combining these elements, as claimed to retrieve a match engine memory entry comprising an action to perform. Further, claim 9 should be interpreted pursuant to 35 U.S.C. §112, sixth paragraph.

Claims 10 and 11 depend from claim 9 and are submitted to distinguish Paatela et al. for at least this reason. Further, Claim 10 recites extracting information relating to another protocol from the packet. The Office Action suggests that Paatela discloses this feature by disclosing performing a protocol transformation. The Applicant submits that this is incorrect. A protocol transformation does not involve "extracting information relating to another protocol" as claimed in claim 10.

Therefore, claims 9-11 are submitted to patentably distinguish Paatela et al.

Claim 12

Claim 12 recites a controller configured to “ generate a match engine key by combining protocol bits of a packet identified in a parser memory entry with a match engine index ...” The Applicant cannot find any disclosure of this feature in Paatela et al. The Office Action suggests that this feature is provided in paragraphs 51 and 55. however, this appears to be incorrect. Neither of these paragraphs discloses combining protocol bits of a packet and a match engine index from a separate source (i.e. either the parser memory or the context memory) to yield a search key. Therefore claim 12 is submitted to be allowable.

Claims 13-19 depend from claim 12 are submitted to patentably distinguish Paatela et al. for at least this reason.

Claim 20

Claim 20 recites “logic circuitry for combining the address information [from the first memory] with one or more bit values from the packet to create a key and to use the key to retrieve from the external context memory one entry from the set of entries”. Paatela et al. fail to disclose this feature. The system of Paatela et al. does not include logic configured to use both one or more bit values from a packet and address information retrieved from a memory using a channel value as an index to create a key and to use the key to retrieve an entry from a memory.

Claims 21-23 depend from claim 20 and the applicant submits they are patentable over Paatela et al. for at least this reason.

Claim 24

Claim 24 is a means plus function claim and must be read according to 35 U.S.C. §112, sixth paragraph. The applicant submits that Paatela et al. at least fails to disclose a means for generating a match engine key equivalent to that disclosed in the specification of the subject application (see especially paragraphs 24, 27, 34 and 43). ,

Claims 25-26 depend from claim 24 and the applicant submits they are patentable over Paatela et al. for at least this reason.

Claim 27 has been amended for clarity. The Applicant submits that Paatela et al. fails to disclose a means for determining from the entry whether or not to retrieve an entry from an external context memory.

Claim 28 depends from claim 27 and the applicant submits it patentably distinguishes Paatela et al. for at least this reason.

Compliance with 35 U.S.C. §103

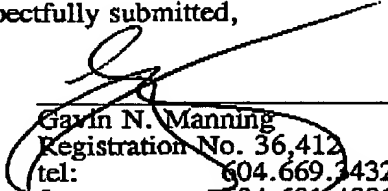
The Office Action cites Paatela et al. on its own or in combination with Feldmeier et al. in relation to claims 5-7, 17-18 and 22-23. The Applicant submits that Feldmeier et al. fails to remedy the above-noted deficiencies of Paatela et al. Therefore, the Applicant submits that these claims patentably distinguish the cited references.

Conclusion

The Applicant submits that claims 1 to 28 distinguish the cited references and requests allowance of those claims.

Respectfully submitted,

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Amendments to the Drawings

Please amend Figure 1 by labeling the packet with the reference numeral 13 instead of the reference numeral 11 as set out in the enclosed replacement sheet containing Figure 1, which is otherwise unaltered.